

CLAIMS

1. A transmission for a bicycle for re-installing the chain in the front chain wheel provided with two or more sheets of gear plates in the lateral direction of the bicycle and comprising two guards, i.e., a main guard for shifting from a middle diameter gear to a large diameter gear, and an auxiliary guard for shifting from a small diameter gear to a middle diameter gear, wherein the main guard is pivotally supported by a link mechanism for moving the guard in the lateral direction of the bicycle, and the auxiliary guard is installed in the main guard so as to be elastically displaceable.

2. The transmission for a bicycle according to Claim 1, wherein the main guard and the auxiliary guard are respectively positioned radially up and down with respect to the shaft axis of the front chain wheel.

3. The transmission for a bicycle according to Claim 1, wherein the auxiliary guard is installed in the main guard at the rear from the center of a seat pipe of the bicycle in the longitudinal direction of the bicycle.

4. The transmission for a bicycle according to Claim 1, wherein the auxiliary guard is installed on the main guard by a pin or welding means.

5. The transmission for a bicycle according to Claim 4, wherein the auxiliary guard with an elastic body is formed to be displaceable.

6. The transmission for a bicycle according to Claim 1, wherein the auxiliary guard with a rigid body is installed in the main guard by a pin or the like through the elastic body.

7. A transmission for a bicycle for re-installing the chain in the lateral direction of the bicycle, the chain being installed in the front chain wheel provided with two or more sheets of gear plates, wherein a main guard portion for shifting from the middle diameter gear to the large diameter gear, and an auxiliary guard portion for shifting from the small diameter gear to the middle diameter gear are integrally provided and are formed of an elastic body, whereby the auxiliary guard portion is elastically deformable.

*Replaced by
Article 14*

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AMENDED CLAIMS

[Received by the International Bureau on March 24, 2004, consisting of 1 page, where the original Claim 1 at filing date has been amended, while Claims 3 and 7 at filing date have been cancelled, and all other Claims remain unchanged.]

1. (After amendment)

A transmission for a bicycle for re-installing the chain in the front chain wheel provided with two or more sheets of gear plates in the lateral direction of the bicycle, comprising two guards, i.e., a main guard for shifting from a middle diameter gear to a large diameter gear, and an auxiliary guard for shifting from a small diameter gear to a middle diameter gear, wherein the main guard is pivotally supported by a link mechanism for moving the guard in the lateral direction of the bicycle, and the auxiliary guard is installed in the main guard so as to be elastically displaceable at a position in which the rear end side from the center of a seat pipe, that is, the lower end portion of the auxiliary guard pressing the chain when the small diameter gear is shifted to the middle diameter gear, cannot be easily displaced or deformed.

2. The transmission for a bicycle according to Claim 1, wherein the main guard and the auxiliary guard are respectively positioned radially up and down with respect to the shaft axis of the front chain wheel.

3. (Deleted)

4. The transmission for a bicycle according to Claim 1, wherein the auxiliary guard is installed in the main guard by a pin or welding means.

5. The transmission for a bicycle according to Claim 4, wherein the auxiliary guard is formed from a displaceable elastic body.

6. The transmission for a bicycle according to Claim 1, wherein the auxiliary guard is a rigid body installed on the main guard by a pin or the like through the elastic body.

7. (Deleted)

BRIEF STATEMENT UNDER ARTICLE 19 (1)

In Claim 1, providing for the restriction that "the auxiliary guard is at a position in which the rear end side from the center of a seat pipe, that is, the lower end portion of the auxiliary guard pressing the chain when the small diameter gear is shifted to the middle diameter gear, cannot be easily displaced or deformed" is based on the description on page 5, lines 3 – 7 of the Specification.

Both Japanese Patent Laid-Open No. 60-219187 Publication (JP, 60-219187 A, category X) 「Reference 1」 and Japanese Patent Laid-Open No. 6-305475 Publication (JP, 06-305475 A, category X) 「Reference 2」, which were cited in the International Search Report, fail to describe nor suggest what Claim 1 of the present application claims regarding the structure of the transmission for a bicycle as described above.

The transmission for the bicycle described in Claim 1 of the present application provides excellent effects, also by way of the providing for the structure as described above, that "When the small diameter gear shifts to the middle diameter gear, the auxiliary guard presses the chain to allow shifting, and so shifting performance equal to that of to the conventional article is attained, and when the middle diameter gear shifts to the large diameter gear, the auxiliary guard is displaced so as to escape onto the side opposite the large diameter gear when the chain presses on the large diameter gear side. As a result, the chain can be shifted to the large diameter gear smoothly without being caught between the guard and the large diameter gear."

Accordingly, it is obvious that the invention of Claim 1 of the present application has both of the characteristics of novelty and inventive step.

Since the invention of Claim 2 depends on the invention described in Claim 1, it is likewise obvious that such invention also has both of the characteristics of novelty and inventive step.

Claim 3 was deleted.

Since the invention of Claim 4 depends on the invention described in Claim 1, and the invention of Claim 5 depends on the invention described in Claim 4, it is obvious that both inventions are provided with the characteristics of novelty and inventive step.

Since the invention of Claim 6 depends on the invention described in Claim 1, it is obvious that such invention has both of the characteristics of novelty and inventive step.

Claim 7 was deleted.